

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claims:

1. (Previously presented) A polynucleotide vaccine comprising a polynucleotide sequence that encodes an HCV Core protein and a polynucleotide sequence that encodes at least one other HCV protein, wherein the polynucleotide vaccine causes expression of the Core protein and other HCV proteins within the same cell, wherein the Core protein and the at least one other HCV protein are encoded in more than one expression cassette, wherein a first expression cassette encoding the Core protein is in a cis location downstream of a second expression cassette that encodes at least one of the other HCV proteins.
2. (Previously presented) A polynucleotide vaccine comprising a polynucleotide sequence that encodes an HCV Core protein and a polynucleotide sequence that encodes at least one other HCV protein, wherein the vaccine causes expression of the Core protein and other HCV proteins within the same cell and the sequence of the polynucleotide sequence encoding the Core protein has been mutated, wherein the mutation reduces expression of the Core protein upon the expression of said at least one other HCV protein, and the Core protein and other HCV proteins are encoded by the polynucleotide vaccine in more than one expression cassette.
3. (Previously presented) The polynucleotide vaccine as claimed in claim 1, wherein polynucleotide encodes a Core protein that is truncated from the carboxy terminal end in a sufficient amount to reduce the inhibitory effect of Core protein upon the expression of other HCV proteins.
4. (Previously presented) The polynucleotide vaccine as claimed in claim 3, wherein the polynucleotide encodes a mature form of HCV Core protein after the second naturally occurring cleavage during normal HCV infection.
5. (Previously presented) The polynucleotide vaccine as claimed in 3, wherein the truncated Core protein has a deletion of at least the C-terminal 10 amino acids.

6. (Previously presented) The polynucleotide vaccine as claimed in claim 3, wherein the truncated Core protein consists of sequence encoding amino acids 1-151 of the Core protein.

7. (Previously presented) The polynucleotide vaccine as claimed in claim 3, wherein the truncated core protein consists of sequence encoding amino acids 1-165 of the Core protein.

8. (Currently amended) The polynucleotide vaccine as claimed in claim 1, wherein the ~~[[a]] second expression cassette encoding the Core protein is downstream of a first expression cassette that~~ encodes NS5B protein.

9. (Currently amended) The polynucleotide vaccine as claimed in claim 8, wherein the first ~~second~~-expression cassette ~~encoding the Core protein~~ encodes the ~~[[for]]~~Core protein in fusion with the HCV NS3 protein.

10. (Currently amended) The polynucleotide vaccine as claimed in claim 8, wherein the first ~~second~~-expression cassette encodes a double fusion protein NS3-Core and the second ~~first~~-expression cassette encodes a NS4B-NS5B double fusion protein.

11. (Previously presented) The polynucleotide vaccine as claimed in claim 10, wherein the Core element of the NS3-Core double fusion protein is selected from the group consisting of sequence encoding: amino acids 1-171 of the Core protein, amino acids 1-165 of the Core protein, and amino acids 1-151 of the Core protein.

12. (Previously presented) The polynucleotide vaccine as claimed in claim 11, wherein the Core element of the NS3-Core double fusion protein is sequence encoding amino acids 1-165 of the Core protein.

13. (Previously presented) The polynucleotide vaccine as claimed in claim 1, wherein the at least one other HCV protein comprises sequence encoding an HCV protein selected from the group of: NS3, NS4B and NS5B.

14. (Cancelled)

15. (Currently amended) The polynucleotide vaccine as claimed in claim 1, wherein the polynucleotide sequence is a plasmid.

16. (Previously presented) The polynucleotide vaccine as claimed in claim 1, wherein the polynucleotides are codon optimised for expression in mammalian cells.

17. (Previously presented) The polynucleotide vaccine comprising a polynucleotide sequence that encodes an HCV Core protein and a polynucleotide sequence that encodes at least one other HCV protein, wherein the polynucleotide vaccine causes expression of the Core protein and other HCV proteins within the same cell and the sequence of the polynucleotide sequence encoding the Core protein has been mutated or positioned relative to the polynucleotide sequence encoding the at least one other HCV protein, wherein ~~such that~~ the mutation reduces expression of the Core protein upon the expression of said at least one other HCV protein, wherein the Core protein encoded by the polynucleotide vaccine consists of one of the following group of sequences encoding: amino acids 1-151 of the Core protein, amino acids 1-165 of the Core protein, and amino acids 1-171 of the Core protein.

18. (Withdrawn) A method of preventing or treating an HCV infection in a mammal comprising administering a vaccine as claimed in claim 1 to a mammal.

19. (Withdrawn) A method of vaccinating an individual comprising taking a polynucleotide vaccine as claimed in claim 1, coating the gold beads with the polynucleotide vaccine and delivering the gold beads into the skin.

20. (Cancelled)